

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON.

DESCRIPTION OF A NEW SPECIES OF *ARVICOLA*, OF
THE MYNOMES GROUP, FROM ALASKA.

BY E. W. NELSON.

Arvicola operarius sp. nov.

THE TUNDRA MOUSE.

Arvicola riparius borealis Nelson and True, Report upon Natural History Collections in Alaska, 1887, pp. 275, 276, Series A (not Richardson).

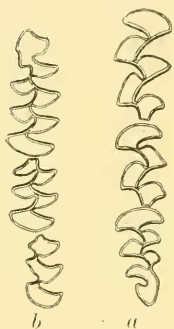
Type No. $\frac{113379}{222335}$. United States National Museum. From St. Michaels, Norton Sound, Alaska. November, 1879. Collected by E. W. Nelson.

Measurements.—Average measurements, in millimeters, of five dried skins, fall and winter specimens, from St. Michaels are as follows: Total length, 104.5; length of tail vertebrae, 25.2; hind foot, 17.9; ear from front base, 9.8.

Color.—The dorsal surface, including the top and sides of the head, is pale, dull fulvous or fawn color, thinly washed with darker from the overlying black tips of the long hairs. On the sides the fulvous of the back shades gradually into the paler lower surface and sometimes forms a faint wash over most of the under parts. The top of the tail is dark brown, in contrast with the color of the back, and its sides and lower surface are white. The under surface is plain, dull, grayish white, including upper lips, chin, and throat, and extending laterally to the insertion of the legs. In some cases the white area is separated from the white under surface of the tail by a narrow band of fulvous

which incloses the base of this member below. The feet and legs are dull whitish. The fur is long and very soft, except on the tail. The tail hairs are rather coarse and stiff and the terminal pencil is peculiarly bristly with a length of 6 mm.

The ears are rounded and clothed on the inner side of cone by yellow hairs. They are wholly concealed by the fur.



Molar teeth of *Arvicola operarius* x 5.
a, upper; b, lower.

The under fur, with basal two-thirds of the long hairs, is of a uniform dark slaty color; succeeding the dark base the majority of the long hairs of the back have a plain fulvous tip. The tips of the longest hairs, however, are black, succeeding a yellowish zone, thus producing a slight wash of darker over the back.

A slight variation in color is apparent among the specimens, due to the varying intensity of the fulvous. The soles of feet are naked. The thumb nail is short, stout, and spatulate and does not extend beyond end of the thumb.

Dentition.—The accompanying figure shows the pattern of the crowns of the molar teeth.

Skull measurements of five specimens of *Arvicola operarius* from St. Michaels, Alaska:

U. S. National Museum numbers..	22225	22212	22224	22214	22223
Basilar length of Hensel.....	21.	21.	21.	21.	20.75
Greatest zygomatic width.....	12.5	12.5	12.5	12.75	12.5
Interorbital constriction.....	3.5	3.5	3.5	3.25	3.5

The present species may be readily distinguished from any known American *Arvicola* by its smaller size and pale fulvous color. It is very abundant along the coast tundras of Bering Sea from Cape Vancouver north at least to Bering Straits, including Nelson, St. Michaels, and Stewart Islands. It makes numerous runways through the moss and under the grass in all the tundra districts where it lives, and as winter approaches gathers stores of small bulbous roots, sometimes placing a peck or more in a single cavity just below the surface on a mossy knoll or slope.

For a short period before the first snowfall in autumn the Eskimo women and children search for these stores with pointed sticks, which they thrust into the sides of mossy banks in suitable places, the spot being found by the ease with which the stick penetrates the few inches of mossy cover. In this way considerable quantities of this food are gathered, and during the following winter it is boiled and eaten as a delicacy. The boiled roots have a flavor like a boiled unripe sweet potato and are very palatable during the long winter fare of meat and fish. During seasons when the snow remains on the ground from fall until spring, comparatively few of these mice come about the houses until the snow begins to melt in spring, when they always become numerous there.

A winter thaw occurs at intervals of several years, melting away nearly all of the snow. At such times the water percolates into all of their runways and storehouses, and the quickly succeeding cold freezes them solid for the remainder of the season. In this way the majority of these mice are at once bereft of shelter and food, and are found wandering about on the surface of the tundras, where many are eaten by foxes and other animals, while others freeze to death, and scores swarm about the native villages and the fur-trader stations.

Ordinarily in spring, as the snow melts away, many winter burrows are revealed just at the lower surface of the snow. Their burrowing can never extend very deep in many places where the permanently frozen soil lies at a depth of from one to two feet. On a dry peat knoll fronting the sea near St. Michaels I once followed their holes to a depth of about two feet.

The Eskimo boys trap them in toy traps modeled after those used by the men for larger game, and the children use their skins for blankets and clothing for dolls.

These mice are omnivorous, and when two or more are confined together in a box the stronger usually kill and partly devour the weaker.

Through the kindness of Dr. C. Hart Merriam I am able to present herewith a plate showing the character of the dentition of this species. I wish also to acknowledge herein my indebtedness to the courtesy of Mr. F. W. True, Curator of Mammals in the United States National Museum, who kindly placed the specimens of the Alaskan *Arvicolæ* at my disposal.